

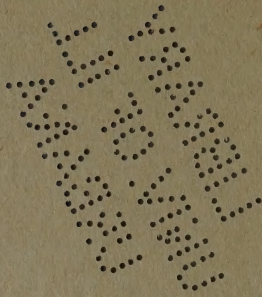
OCTOBER, 1890. No. 2.

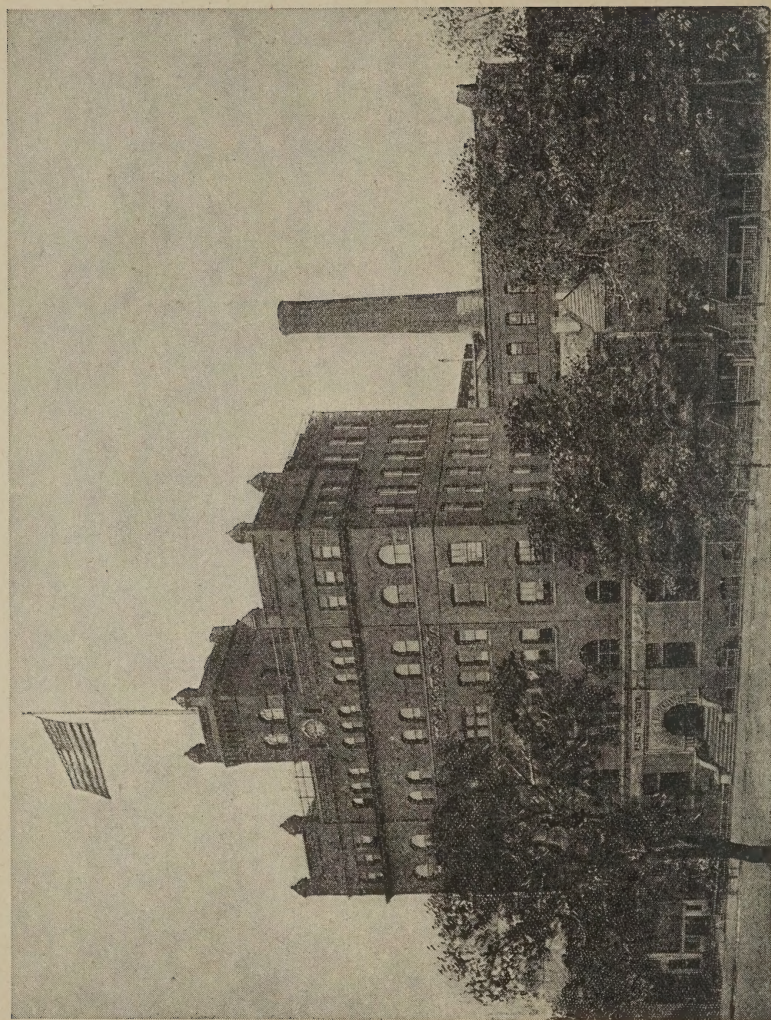
PRATT INSTITUTE
RECORD

FOUNDER'S DAY NUMBER



PUBLISHED BY
PRATT INSTITUTE, BROOKLYN, N. Y.





PRATT INSTITUTE.
FRONT VIEW FROM RYERSON STREET.

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RECORD

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PRATT INSTITUTE.

FOUNDER'S ADDRESS, OCTOBER 2, 1890.

THE past year has gone rapidly, and my address, and the announcement and catalogue of last year have become a part of the history of Pratt Institute. This morning I propose to add another page to that history.

OUR FIRST CATALOGUE.—In preparing a systematized report of the work of almost any other educational institution, it would be quite easy to find a model for guidance; but in this case the work in the various departments has been carried on in great part according to original plans and methods, and it is for this reason chiefly that I desire to emphasize the value of the work done, and to call your special attention to the carefully classified information given in the announcement and catalogue issued last June, in which the design and methods of instruction in each department and branch of study in the Institute are set forth.

TECHNICAL HIGH SCHOOL.—The first class of nine from this department was graduated at the Commencement, on the 19th of June last, which was an occasion of great interest, not only to the students of the Institute, but also to its patrons, and to many of the citizens of Brooklyn. The Rev. Dr. Cuyler delivered an impressive address and the exercises were highly creditable to both teachers and scholars. We regard this department as one of importance, and one that will be of signal service to all who may avail themselves of its opportunities.

The applicants for admission to the class this year were more than we could accommodate. We believe in the value of co-education, and are pleased to note the addition of more than twenty young women to this entering class.

ART DEPARTMENT.—The course in Normal Art was opened two years ago. Last June we graduated a class of twenty-three earnest women, who went out as teachers, and there is great satisfaction in believing that their

influence and work will be felt in many cities in different parts of our country. The demand for competent teachers in this department is constant, and we have as yet been unable to satisfy it.

For the branch of clay-modeling we have engaged the services of a competent and experienced person, thoroughly familiar with the art of modeling and sculpture, and we anticipate a marked improvement in stone and marble work under his instruction and management during the year before us.

APPLIED ART.—The work of both teachers and scholars in this direction has been full of interest, and much progress has been made in every branch, particularly in that of designing, wood-carving, and artistic needlework.

Returning from France a few weeks since, I met on the steamer some ladies who had gone to Paris for no other purpose than to buy trousseaus for some of their friends because they could not obtain as fine a quality of needlework in this country. We wish to develop the skill and cultivate the taste of Americans so that they may be able to do as good work here as can be obtained in Paris. Many people are willing to pay high prices for the best quality of work, and, I think, with time and patience, the women trained at this Institute will secure the confidence and patronage of the public for the products of their skill, and at prices that will amply repay them.

Our work in dressmaking and millinery has received high commendation. The specimens sent to the exhibition at the National Teachers' Convention, at St. Paul, called forth much praise, and we feel that we have good reason to compliment the women in charge of this department for the success which has attended their labors.

DEPARTMENT OF DOMESTIC SCIENCE.—One important design of this department is to render it practicable for persons of very limited income to secure and enjoy more comfort in their homes. The man who earns ten dollars per week will have a more attractive and happy home with a wife trained in household economy than the man who receives twice as much whose wife has had no training in domestic economy and thrift. In my opinion, the value of this practical part of a woman's education, in its influence and benefits to any community, cannot be overestimated, and we believe that its importance will be realized more and more by the people generally from year to year.

The many applications we have had for teachers in most of the departments of our work have led us to appreciate the need and importance of establishing normal courses in many of the branches. Among these, we have started a Normal Class in Cooking.

We have been anxious to establish a course of training to qualify servants for housework and the management of households, and it is hoped that we shall be able to do something in this line during the coming year.

DEPARTMENT OF MECHANIC ARTS.—Decided progress has been made in organizing and developing this department in its various branches. We have added tinsmithing, and propose also to provide looms for giving instruction in the art of weaving. We do this at the earnest request of manufacturers who desire trained workers in this branch of mechanic art.

The Painters and Decorators' Association visited the Institute last year and urged that we should begin a class in painting and fresco work in connection with our Trade School Department. The necessary facilities for that purpose have been supplied, and evening classes have been formed.

DEPARTMENT OF COMMERCIAL EDUCATION.—This is a comprehensive term. We have found a number of institutions in Europe whose specific aim is to train young men for commercial pursuits. In connection with this work is a demand for first-class clerks who propose to make business their profession.

For lack of room we are not able to carry out all our plans in regard to this department.

Our work in phonography and typewriting has been very successful. Many of the students have secured lucrative employment, and retained their positions.

MUSIC DEPARTMENT.—Finding that we had not room enough in the Institute buildings, owing to the growing needs of this department, it has been transferred to the Studio Building, No. 244 Vanderbilt Avenue. This building, on account of the fire at the Adelphi Academy last December, it was found expedient to surrender to the Academy for the remainder of the school year—they assuming the kindergarten work which we had undertaken. We propose, however, to establish a Normal Class for training kindergarten teachers as soon as we can provide the facilities.

The Choral Society is doing good service in drawing the attention of the people at large to the fact that they may not only enjoy music as listeners, but also take part in its performance.

A two-year course for the training of teachers of music has been established in response to a growing demand for such teachers.

THE LIBRARY.—Probably no department of the Institute has been more successfully carried on than the Library, perhaps because we have not been hampered by any commitments as to the way we should conduct it. We have selected the best books, and only those which would be of

real service and benefit. Special lists for the young have been made, and special works on history and various other subjects have been selected with great care. We believe this department has been making its influence widely felt for good. The circulation has steadily increased, having reached nearly 100,000 volumes during the year ending July 1, as against about 90,000 in the year preceding. The number of members, also, has increased from 6,500 to 9,500.

The Astral Branch of the Library, in the Astral Building at Greenpoint, has also been largely patronized, and it has become an important institution in that part of the city.

THRIFT ASSOCIATION.—According to the announcement on last Founder's Day, the Thrift Association of Pratt Institute was formed, and the result of the first year's work is satisfactory. The business has been allowed to develop naturally, and no special efforts have been made to induce people to become investors.

For the first nine months from October to the end of our fiscal year, July 1, we received \$13,373.04. The whole amount has been loaned on mortgages to people desiring to purchase homes.

The number of subscribers was	321
The number of shares subscribed for was	1,575

A large number of circulars of information, and 10,000 copies of the Sayings of Benjamin Franklin have been distributed to aid in promoting habits of economy and thrift among the young, and we believe this literature has been useful for this purpose.

We have found in our experience that many persons are unable to save as much as \$1.00 per month, and we have concluded to introduce the stamp system which has been used in Europe and in some parts of this country. For this purpose we have prepared a series of stamps of the denominations of 5, 10, 25, and 50 cents, which are for sale, and can be purchased at any time during the month, and can be returned at any time and redeemed for cash.

Branches of The Thrift have been established in the Young Men's Christian Association, in the Young Women's Christian Association, and in the Astral Reading Room at Greenpoint.

The Loan Branch has also been quite successful; all the money received having been loaned to persons buying homes, and it is being returned monthly. Many people, we believe, are buying homes in this way, who would otherwise be unable to do so. We are hoping to enlarge the usefulness of the Thrift Association as time goes on.

THE FACULTY.—The Faculty of the Institute consists of seven members, each of whom has charge of some special department. The respon-

sibility thus thrown upon each has tended, we believe, to stimulate individual attention to specific rather than general work, has prevented any clashing or interference in the management, and the result has been most gratifying.

INSTRUCTORS.—In addition to the Faculty there are ninety-one instructors and assistants, who, with the Faculty, and with those who are to enter upon the work this year, will make the number considerably over one hundred.

THE TRUSTEES.—There are only three Trustees charged with the control and management of the Institute, and I need not repeat here that there has been great harmony in the discharge of their responsible duties. It is my judgment, both from observation and experience, that on account of this small number, we have made more progress in our work from the unobstructed freedom with which we have thus been able to carry it forward.

NEW BUILDING.—The Institute is sadly in need of room in many of its departments. In our last catalogue, we gave the outlines of a large building which we were purposing to construct, but we thought it wise to modify our plans, and the construction will therefore be somewhat delayed. The architect is preparing plans, and we hope to begin the work of construction at an early day.

SUGGESTIONS FROM PATRONS.—In May we issued a circular to the patrons of the Institute, asking a number of questions, to learn if there was not some way in which we could be of more benefit to the students, and in the hope that we might reach some persons who could suggest particular needs which it might be within our power to supply. The number of replies received up to June 6 was 556, and these replies have given us information of those who, from lack of funds, have been unable to join any of our classes, of others who would be glad to attend summer classes, as well as valuable information upon many other points by means of which we hope to be able to extend the usefulness of the Institute.

LECTURES.—Referring to lectures, we have had only a few during the past year, but propose to have this valuable method of popular instruction fully represented at the Institute as soon as more ample facilities can be provided for that purpose.

DORMITORIES AND BOARD.—Attention has been called to the possible need of dormitories, or a place where teachers and scholars from out of town could obtain board and lodging. We hope to be able to furnish such accommodations as soon as we have time to give the matter proper consideration.

SUMMER SCHOOL.—We have requests from a large number of earnest

teachers for opportunities to avail themselves of the facilities of the Institute to fit themselves to become teachers in the various lines of work peculiarly connected with the Institute.

If we could arrange to provide teachers for this purpose we should be glad to supply this important demand. The strain on our regular teachers at the Institute is such that they need the vacation for preparation of the work of the new year. If any would like, however, to take advantage of the classes, should any be formed, and will send in their names, we will be glad to do anything we can to further their interests.

Added as a postscript to the circular of questions, it was suggested that many people who were brought up in the city do not appreciate the advantages coming to those who devote themselves to the cultivation of the soil, and that the grand opportunity offered to American youth in agriculture has not been well understood ; hence, this question was also asked :

“ In case we could interest farmers or persons connected with agricultural pursuits in offering employment under favorable circumstances, do you know any young man or woman who would like to make farming a profession, or who desires to spend a few weeks or months in healthful work on a farm ? The idea would be to try to secure for them employment which would give them general experience, at the same time expecting that the value of their services would be, substantially, an equivalent for their board.”

There were seven who referred to the farm work, resulting in four young men from the Institute giving their time for a few months last summer on the farm in return for their board. This would seem a small return for the cheerful, patient work they gave, but they received something worth more than money in learning to work and care for themselves.

In view of this experience, we are considering the advisability of establishing classes in some form of agriculture, such as gardening, flower and tree culture ; making use of the vacant ground about the Institute. We are now looking for a competent man to take up this work and make it a part of our development.

I was struck while in Paris this summer with the profusion and beauty of the floral decorations, with the arrangement of bouquets and flowers in the shops, and the number of people who seemed to be occupied in that particular business. People with small plots of ground were raising flowers and bringing them to market.

Now we have an abundance of cheap land in this country, and an ample opportunity for thousands of our young people to lead happy and contented lives in this branch of industry, which, in my estimation, has been

very much undervalued. In view of the progress which has been made in the invention of machinery and the absorption of large capital by manufacturing concerns, it seems to me doubly important that we should open to American youth the broad and comprehensive field which is embraced within the range of the garden, tree culture, and agriculture.

OUR WORK.—No record of our work has been so important as the example which we believe it has set in the line of progressive education. We are endeavoring to establish an institution as a pattern for other cities and towns to follow, and we have had many encouraging reports, particularly regarding our exhibition at St. Paul during the past summer; but it requires a long time before a young institution like ours can become widely known.

FINANCES.—I have been asked many times why we did not publish some statement of the finances of the Institute. Each year, as we have come to Founder's Day, I have had accounts made up and a statement prepared at considerable cost of time, which I had thought to make public, and have then put them one side, because I was in doubt as to the wisdom of making any statement.

I have asked myself, over and over again, what good could result from any statement we could make of the amount of money we have spent. The quality and amount of service rendered by the Institute is the only fair estimate of its real value. Our experience has been too limited to justify us in attempting to give any estimate of what it costs to carry on the various branches which we have undertaken.

Demands for money to meet the growing wants of each department of the Institute have been constant, and while the receipts for tuition were six times as large for the year 1889-1890 as they were for 1887-1888, they were not one-quarter as much as the general expenses, such as salaries of teachers, light, heat, supplies and equipment, to say nothing of any interest on the cost of land or of buildings.

But this does not concern us; for the separate departments, when once fully organized, we believe can be made to become largely self-supporting, although the Library will be a constant expense, and can give us no direct return. In a word, we are trying to teach others to be thrifty. We are struggling daily with the problem of our own financial condition. We do not wish to spend a dollar if ninety cents will produce the same result. On the other hand, we want nothing but the best quality of men and women as managers and helpers, we want nothing but the best facilities for our work, and if we should find the burden becoming too heavy, we shall try to so modify our plans as to enable us to go on with the work as we find the altered condition demands.

GENERAL REMARKS.—Handwork.—Just a word, now, before closing, on handwork :

Gobelin tapestry, which was made by the French Government for so many years, and which represents, perhaps, the highest type of hand-weaving, is still in demand. We were this summer in Russia, where they were cutting hard Siberian stones and fitting them into mosaics. This was done with very great skill and with the utmost patience. This is work which our American people would be glad to buy and pay high prices for if they could get it, but it is done altogether for the government, and so these products of skilled labor are not in the market.

I am satisfied that our American people have yet to learn what a large field of profitable employment lies in the various kinds of artistic handwork. Whether it be needlework, wood-carving, designing, sculpture, or anything which represents the most skillful and patient labor, I am sure that it will find a market when we can produce such a quality as to compete with the best work of the kind in Europe. And why not? We have as bright minds and as skillful hands, but it requires superior designs to work upon, and a combination of taste, skill, and patience to succeed.

The importance of appreciating the value of handwork is also embodied in the general idea of proprietorship. To illustrate what I mean : In Paris, I saw at the Exhibition of Industry and Science some very handsome enameled copper work. On securing the card of the manufacturer, we concluded to call upon him, and drove to his place in the lower part of the city, a small, three-story house, and were shown in by what appeared to be the wife of the manufacturer. We finally asked to see the factory, and were taken through a series of rooms into the rear of the house where the manufacturer, in a frock, was at work with two or three other men painting and preparing the copper for the different processes. This manufacturer was proprietor of his own establishment, and happy with his family in managing his own business. If it were possible to produce these goods by machinery, the probabilities are that it would be done in a large factory ; but the fact that it was the man's individual skill which made the work a success revealed the importance of endeavoring to develop any industry which would make the managers of it independent proprietors. The different manufacturing industries of the present day are conducted on such an extensive scale that it requires the investment of enormous sums of money in expensive plants, and only associated capital can become proprietors of these large businesses. Now it seems to me that small individual proprietorships of industries can come through those branches which depend upon individual skill.

In looking this summer at the civilization of Denmark, Norway, Sweden, Russia, Germany, and France, and reviewing the trip we made a year ago, and my own experience of the past year, I am convinced that the great problem which we are trying to solve is very much wrapped up in the thought of educating the people to find happiness in a busy, active life, and that the occupation of the hour is of more importance than the wages received.

In addition to educating the people to find happiness in their occupation, is the further step of educating them to appreciate the value of home. To this end we have been doing what we could in circulating good literature, and in the endeavor to make people thrifty. Aside from the hope that we might encourage people to buy homes for themselves, is the higher element of happiness which comes from an appreciation of the wisdom of finding contentment in one's own family through a better knowledge of domestic economy.

Home is the centre from which the life of the nation emanates, and the highest product of modern civilization is a contented, happy home. How can we help to secure such homes? By teaching the people that happiness, to some extent at least, consists in having something to occupy the head and hand, and in doing some useful work.

CONCLUSION.—The world goes on, and Pratt Institute, if it fulfills the hopes and expectations of its founder, must go on, and as the years pass, the field of its influence should grow wider and wider.

As I said last Founder's Day, the developing and enlarging power of the Institute must be in itself. The giving which counts is the giving of one's self. The faithful teacher who gives his strength and life without stint or hope of reward, other than the sense of fidelity to duty, gives most, and so the record will stand when our books are closed at the day of final accounting.

So to my sons and co-trustees, who will have this work to carry on when I am gone, I wish to say: The world will overestimate your ability, and will underestimate the value of your work; will be exacting of every promise made or implied; will be critical of your failings; will often misjudge your motives and hold you to strict account for all your doings. Many pupils will make demands and be forgetful of your service to them. Ingratitude will often be your reward. When the way is dark and full of discouragement and difficulty you will need to look on the other side of the picture, which you will find full of hope and gladness. So I would give you a word of encouragement and cheer, and possibly I cannot do better than to impress upon you the wise counsel of an ancient sage from another race, as follows:

“You do not live for yourself. If you live for yourself you shall come to nothing. Be brave, be just, be pure, be true in word and deed. Care not for your enjoyment, care not for your life ; care only for what is right. So, and not otherwise, it shall be well with you. So the Maker of you has ordered, whom you will disobey at your peril.”

My experience in business and in the active life I have lived has led me to believe that any institution, or community of men, whose action is based upon this principle will be a success. The teacher and the taught will catch the inspiration, and so long as we are true to these foundation ideas all will be well.

REPORT OF THE SECRETARY.

THE results of the past year's work have shown more clearly than ever before the value and wide-reaching effects of the instruction given at the Institute. The classes have been better organized, the work more systematized, and the pupils of a better grade than at any previous time. While fewer new lines of instruction were organized during the year, each department has broadened and developed many of its own branches.

At the beginning of the year the Kindergarten and Thrift Departments were organized; the former, to develop the various branches connected with the training of children, and the latter, to afford a safe place where small sums of money might be deposited or loaned for the purpose of making persons independent.

On account of the fire at the Adelphi Academy during the winter, the Kindergarten was given over to the Academy.

The Thrift Association has prospered during the year, and we believe has been doing a helpful work. There have been 318 subscribers to the Association, and as many more who have shown an active interest. A detailed report of the year's work will be published shortly. While we have not endeavored to push the Association, it has had a steady and sure growth.

Another very helpful step was taken during the spring when an annual catalogue was issued, which contained, among other things, full courses of study. This catalogue, together with an extensive exhibition of the work of the Institute at the annual meeting of the National Educational Association, at St. Paul, has done more than anything else to give the public a definite idea of what we are doing. The first edition of the catalogue, over 10,000 copies, has been exhausted, and a second edition is now being printed.

We have endeavored to keep the public in touch with us by means of frequent invitations and exhibitions of our work. Every assistance has been given to all who showed the least interest in examining the Institute, its methods, facilities, and scope. Over 10,000 visitors inspected the buildings during the year. So impressed have people been, that in many parts of the city organizations on a small scale have been started. This is especially noticeable in the case of cooking, sewing, and millinery classes

which have been undertaken, sometimes under our own management, but oftener under that of others.

We are striving to give the very highest grade of work possible, with the best trained teachers, and most modern facilities, and it is not strange that others are coming to us for suggestions.

The real practical nature of our work is shown by the fact that more than a hundred pupils of last year's classes have obtained positions which are making the possessors self-supporting. This fact leads me to say that it seems only a matter of justice that these same pupils should repay to us, in some form or other, the great expense which we have been under in giving them this instruction.

Already there is a need for more room. With this in view, we have been planning a building to contain the public features of the Institute work, viz.: a large lecture hall, museum, library, and banquet rooms. It is hoped that this may become a centre of influence in this part of the city for all lines of social, industrial, and educational work.

The number of individual pupils for the year was 2,364, of whom 785 were male. There were over fifty pupils graduated in June, the first to finish the yearly courses.

There have been employed as active instructors 77 persons, and as a total connected with the Institute in various capacities 107. This large force requires a strong business organization, which is centered at the General Office. In fact, all matters of finance, applications, requisitions, employment, and the general development of the Institute, are transacted through the General Office.

The assistance of the Faculty, as an organization, has been especially helpful during the year, so that while the number of Trustees is small, the suggestions given and thought exercised have been of great service.

We have made little effort to advertise the Institute except by general announcements, preferring that the character of the work we are doing should speak for itself.

The following reports of the departments have been written by the several directors, and modified as circumstance required.

TECHNICAL HIGH SCHOOL DEPARTMENT.

THE record for the year 1889-90 in the Technical High School Department possesses especial interest from the fact that in September of this year the department had for the first time its full quota of classes, while the following June witnessed the first graduation exercises, and the consequent appearance of alumni in the department's history.

Starting, as it did, in a small and somewhat irregular way during the year 1887-88, the department has grown steadily, and is now doing its part toward solving the problem of combined mental and manual training. In this solution certain elements are already well established. Among the best educational thinkers and workers it is generally agreed that the one-sided education of the past cannot become symmetrical unless there is introduced into it some feature unlike itself; and it is also admitted with almost equal unanimity that this necessary element is manual work in some form or other. This much is sufficiently well established to serve as a basis for future work; but as to the particular nature of the manual element, the relative proportion of manual and mental, the wisest methods of adapting the one to the other, these and many other questions remain to be settled, and it is these in part that the Technical High School is endeavoring to solve.

The work of the past year has been done under more favorable conditions than heretofore. Better and more ample accommodations and more complete equipments have had their influence. Especially worthy of notice in this connection is the fitting up of the physical and chemical laboratories and physical lecture room. The chemical laboratory became a necessity last year, as chemistry, a senior study, was taught for the first time. It occupies a room 60 by 18 feet, is abundantly ventilated, and is provided with desk accommodations for forty students. These desks have soapstone tops with pneumatic troughs in each, and are furnished with all the appliances necessary for the best and most convenient work, and it can safely be said that this laboratory will compare favorably in convenience and completeness with any other of its size. Although the physical laboratory has not yet been fully furnished, its present equipment is sufficient for excellent work. The physical lecture room, with seats arranged in tiers, has been found a great convenience both in

connection with the sciences and elsewhere, when it was especially desirable that all members of a class should be able to overlook the instructor's work. Not only have the rooms been fitted up as described, but a very considerable quantity of apparatus for chemical and physical work was purchased during the year. Special effort was made in selecting this to adapt it, as far as possible, to the peculiar requirements of our students, and the work of the year has proven that the choice was judiciously made.

In connection with the matter of equipment should be mentioned the addition made to the library of the department. Although all instructors and students have access to the general library of the Institute, and make much use of it, yet it has been found wise to keep for permanent use in the various class-rooms such books as are most intimately related to the studies therein pursued, and which should be at hand for ready reference. In accordance with this principle, a good supply of standard books upon literary, scientific, and mechanical subjects, as well as those of special value for general reference, was placed in the class rooms, and was found to be of much service.

The general work of the department has shown a marked advance upon that of the previous year. Several factors have contributed to this : better surroundings in the way of school accommodations and equipments ; a firmer grasp on the part of instructors of the principles underlying the work to be done ; a class of students better prepared to take up the required course ; and finally, the existence of what may be called a school atmosphere, which every new institution must create for itself. This atmosphere, if its elements are honesty of purpose and earnestness, does more to promote the welfare of a school than all purely physical surroundings.

Mention has just been made of the better preparation of students now entering the department. This is doubtless due in part to a more perfect understanding of the requirements for admission, and to the fact that we have insisted with greater firmness upon these requirements. Our students the past year have come from many public and private schools in the city and elsewhere, and with varying degrees of excellence in their preparation, but we may reasonably expect each year a class of pupils better fitted than their predecessors to take up our work.

The course of instruction which was marked out some time since has been followed with a few modifications. Although experience shows that certain changes must in time be made in this course, yet the general principle upon which it was formulated still holds, and in accordance with this, five lines of work have been simultaneously pursued — mathematics, English, natural science, drawing, manual work.

MATHEMATICS.—The foundation principles of algebra, geometry, and trigonometry were carefully taught, special effort being made to train the student to mathematical modes of thinking. To this end, as much attention as possible was paid to original work, and with good results. The limited time allotted to trigonometry made it impossible to take up practical surveying, but it is hoped that it will not be necessary hereafter to neglect so important a subject. While mathematical studies are in any school of prime importance, yet in an institution like our own they take on additional value because of the close relation between the different elements of our work, the mathematical principles learned in the class room being directly applied in drawing and in manual work. During the last term, the Second Year Class received instruction in book-keeping, and although comparatively little time was devoted to the study, yet they showed in an unusual degree a comprehension of the principles of the science and an ability to use them.

ENGLISH.—Without going into the details of the work, it may be said that the two ends especially aimed at in the study of English are to enable every student to write and to speak his own language with ease and correctness, and to cultivate a taste for the best reading as well as ability to judge what is best. With this in view the work of the first year has been devoted chiefly to acquiring facility in the use of correct English, and very good work has been accomplished. During this first year a beginning is also made of the study of literature, as such, a critical study of a few specimens of choice English being attempted.

The value of the second year's work in general and English history is hardly more in gaining a thorough knowledge of the text-books than in using this knowledge as a basis for collateral reading, even though the reading cannot be done until long after the pupil finishes his school course. English literature, as in the case of all senior studies, was taught for the first time the past year. The text-book used—Great English Writers—served as an excellent basis for work. Throughout the study the chief aim was to bring the student in contact with the lives and thoughts of the best writers of English prose and poetry, and thus to inspire him with a love for the best in literature. In this study the library of the Institute has been of the greatest service, and in this connection it may be said that the efficiency of the department has, in numerous ways, been promoted by the library, not only by the posting on the bulletin boards of the monthly lists of new books added to the library, but by the preparation of special lists of books bearing upon our work, and by the constant and freest use of the library by teachers and pupils.

The time given during the senior year to civil government and polit-

ical science is hardly sufficient to cover satisfactorily such important studies, but every effort was made to give, in the time allowed, a clear and reasonably complete view of the vital principles underlying these subjects, and to encourage students to make practical application of them in judging the great questions of the day. The English work of the last year was supplemented by considerable attention to essay-writing, not only in general directions, but in the preparation of orations for use at the closing exercises. The experience of the past year has shown the necessity of unifying the English work of the department, so that each year's studies may form an essential part of a complete whole. To accomplish this, the work of the first year must be continued in the form of essay-writing, thus connecting it more directly with the requirements of the third year, while the suggestive work in literature should be supplemented by certain required reading during the second year. The plan to require a certain amount of prescribed supplementary reading from all students will soon be inaugurated.

Only a beginning of elocutionary training has yet been made, and this principally in preparation for the graduation exercises of the Senior Class, but it is now expected that hereafter such training will form a part of the work of each class, and certainly its importance requires this.

The aims of the department would hardly justify the devotion of as much time to the study of other languages than English as the needs of many schools require. We have, however, given to the Second Year Class a year of Latin as an optional with history, and expect to make it possible to continue the study through the third year. The practical value of a language connected as closely with modern languages as is the Latin, to say nothing of the acknowledged benefit from the careful study of any language, need hardly be discussed.

The work of the Senior Class in French was of such a nature as to give them a fair reading knowledge of the language, based upon a sound, grammatical basis. This knowledge was found not only helpful, but a necessity to those who took examinations for admission to other schools.

SCIENCE.—When the High School course was being planned, much thought was given to the demands of the scientific element, the claims of the different sciences for representation in the course being carefully weighed. It was decided to introduce only those which seemed absolute requisites for general education, giving all the time possible to a few instead of dividing it among a larger number, all of which might be desirable. As yet there has appeared no sufficient reason for modifying the plan.

The entering class for the first half year pursued the study of physiology, and gave abundant evidence that they were acquiring that practical

knowledge of the essentials of the science at which we especially aimed. The use of charts and models, as well as of the skeleton, aided much in securing this result. Great pains was taken throughout this study to see that the theoretic knowledge acquired from text-books and from lectures should be reduced to a personal, practical knowledge by each student, so that all might have that understanding which is required for one's own physical well-being. This study gave way at the middle of the year to physical geography, a study of especial value to our students, from the fact that it includes the elements of several natural sciences which, on account of the limits of our course, cannot be pursued further. Although the half year devoted to it was hardly sufficient for the demands of the subject, yet a good foundation was laid for that future study which pupils may be disposed to do for themselves along any of the suggested lines.

Probably no part of the scientific work of the year was of more direct use to the students than the physics of the middle class. This was due not simply to the progress which the science itself is making and the increasing number and importance of its applications, but to the intimate relation between it and other branches of our work. The fitting up of the physical laboratory made it possible to emphasize this relation as it could not otherwise be done, for each student was thus given opportunity to put to actual proof, by individual experiment, the principles learned, and in many cases to apply these same principles in his manual work. The general subject of physics was treated under the main divisions of mechanics, sound, electricity and magnetism, heat, light; and in connection with each of these the students, in addition to the regular class-room recitations, performed their own experiments, upon which they made notes, as they also did upon the lectures of the instructor. An idea of the individual experiments may be gathered from mention of a few typical subjects to which they gave attention: measurements and weighings, friction, specific gravity, laws of sound vibrations; electrical machines and measurements, use of batteries, etc., latent and specific heat, expansion, polarization, spectra.

Chemistry ran through the entire senior year. Reference has already been made to the excellently-equipped laboratory used this year for the first time. The time of the class was divided about equally between recitations or lectures and laboratory practice. The class showed no little interest in their work, and the practical tests given them from time to time during the year were sufficient evidence of their grasp of the fundamental principles of the science. The work in the laboratory consisted in the production of the elementary gases, the manufacture and testing of all the inorganic acids, and the qualitative analysis of the metals. The work has

been of such a character as to give the pupils a good practical working knowledge, founded on a basis of theory sufficient for thorough understanding of the subject.

MUSIC.—It has been found impossible to give more than a very brief period weekly to instruction in music, and had it not been for enthusiastic instruction and the use of the simple and natural system of Tonic Sol-fa, little could have been accomplished. It is hoped that we may be able some time to devote more attention to this branch, which is of such undeniable benefit to students.

DRAWING AND MANUAL WORK.—The drawing and manual work of the department is described elsewhere at considerable length. The year's work in these two lines has done something toward removing the common misunderstanding of the nature and object of such work, and to show that it may rightfully claim a place in a general education. We have on all sides met the popular idea that manual work is valuable to those only who contemplate a mechanical pursuit, and that drawing is for those alone who possess decided artistic ability or taste. It has been possible during the year to see something of the value to all classes of students of both these branches. Students who were supposed to possess neither taste nor ability for such work have often developed both; those having in mind a business or professional pursuit have come to see the advantages of training their eyes and their hands. It can by no means be said that all students do equally well in manual work. The same differences of ability and power of adaptation show themselves here as in class-room work, but it can be said that this work is of positive benefit to all, in that it awakens faculties which would otherwise lie dormant, and develops others which have been little used. Nor is this true of the shop courses for boys only; but in many ways the same broadening and developing power is seen to exist in the special courses for girls—in the sewing, the cooking, the wood-carving, and in other branches forming a part of their work.

The course of manual work for girls has been carefully elaborated during the year, with a view to give that work which is of itself most valuable, and in giving it to follow the natural and progressive order; and in this elaboration, as well as in the actual carrying out of the course, the close relationship between the different elements composing the course for girls has been made more and more apparent.

ATHLETICS.—It may not be out of place to mention the interest taken by the students in the matter of athletics, an interest manifesting itself in the formation of a flourishing athletic association and in participation in various forms of out-of-door sports. While it is doubtless true that students in many institutions devote altogether too much time to

athletics, yet it is equally true that, within reasonable limits, the greatest good may and does come from active interest in athletic sports.

The school year closed in June with the public exercises of graduation, when nine young men completed their course, each of them presenting at that time an oration or thesis. Of these students, four are expecting to enter advanced schools for which our High School course has fitted them, while the others will engage in mechanical or mercantile pursuits, most of them choosing some occupation for which our training has especially prepared them. The future of this, our first class, is a matter of no little importance to us, both because of the personal interest we should naturally feel in our first graduates, and especially because it will indicate to some degree the future of our later graduates and, consequently, what training we should aim to give them. If our students are to enter advanced institutions of learning, the reputation of the Institute will depend largely upon the preparation we give, and in the same way we shall also be judged by the ability of those whom we send into business or mechanical pursuits. In any case, nothing but the most thorough training should satisfy us.

A report of the Technical High School Department for the year 1889-90 would be far from complete were no mention made of the earnest, intelligent work of the instructors, who have given of their time, their energy, and of themselves, most unselfishly.

ART DEPARTMENT.

OWING to the greater facilities offered by the addition of six new rooms, and by the increased number of students and teachers, many changes and improvements have taken place in the Art Department during the school year of 1889-90. The pupils who could attend three mornings only were referred to the afternoon classes, and the morning classes limited to five-day students who enter for regular courses of study of two to four years, according to the work selected. The session was also lengthened three-quarters of an hour, instruction being given from 9 to 12:45 o'clock. As a consequence of these changes the studios and class-rooms have been filled with earnest students, who have devoted every morning to study, and in many cases have worked the entire day throughout the year.

The added rooms have been used by classes in wood-carving, clay-modeling, architectural, mechanical, and freehand drawing. The other studios of the department have been occupied by classes in design, water color and oil, and by the antique and life classes.

Several teachers were added during the year, and as the number increased, each was enabled to concentrate thought and effort upon one special line of work, and in consequence to become more thorough and systematic in instruction.

The courses for morning classes are planned to cover two or more years, and, therefore, with but few exceptions, applicants were admitted only at the beginning of the September term. Applicants were admitted to the afternoon and to the evening classes in September and in January, and also to the afternoon classes in April.

In April, art needlework became an added feature of the work of the department, and the students of this class began a regular course in drawing and design.

ENROLLMENT FOR THE YEAR :

Morning classes	218
Afternoon classes	154
Evening classes	298
Technical High School classes	76
Domestic Science classes	199
Total	945

The work of the students in the various courses of study is explained as follows :

REGULAR ART COURSE. — The pupils who entered the morning classes in September began work at once in the studios, devoting their time to elementary work from ornament in masses of light and shade and in values.

Still life, combining light and shade and perspective, was taken after cast drawing, together with lectures and practice upon elementary design and the history and application of ornament. During the first term, lectures and exercises were given in freehand perspective, followed each week throughout the year by perspective problems and problems in light and shade.

Much attention has been given to sketching, which has been taken in connection with the subjects mentioned, and as the pupils attained requisite skill they were admitted to the Sketch Club of the advanced classes.

The Costume class has been a pleasant and profitable feature of the work. During the first two terms the class met one afternoon each week, one member posing in costume, while the others made sketches of the model, using various mediums. The third term the interest was so well sustained that the class requested permission to devote a second afternoon to this study.

The advanced classes have given especial attention to drawing from the antique, and to work from the head from life, together with the study of artistic anatomy, composition, and painting in either oil or water colors, from flowers, still-life groups, etc.

As all three-day pupils were referred to the afternoon classes, these were greatly re-enforced, and at the commencement numbered 87 pupils, additions being made each term. Classes met for instruction on Monday and Thursday, and others on Tuesday and Friday, Wednesday being a common practice day for all. The classes were in three divisions: the beginners', the advanced, and the children's classes. This last was quite a feature of the afternoon work. The pupils were much interested, and produced some very creditable work in charcoal, pencil, and brown crayons. The other divisions drew from casts and from groups of still-life objects. Exercises were given in freehand perspective, and many sketches were made in pencil, and pen and ink. During the third term the advanced students began the study of water color, and painted simple still-life groups with good results.

The pupils of the evening classes drew from casts and common objects in outline and in light and shade; much work was also done in freehand perspective, and sketching in pencil and red chalk. The advanced pupils drew from the cast of the figure and gave much attention to sketching with various mediums.

NORMAL CLASS.—This has been one of the most earnest classes in the department; thirty-five pupils have been enrolled, nineteen of whom came from other states. A great deal of most satisfactory work has been accomplished.

The class was in two divisions, the First Year Class, and the Advanced. The pupils of the First Year Class closely followed the course of the corresponding regular art class, but in addition received instruction in the methods of teaching drawing as related to work in public schools. The pupils of the Advanced Class were chiefly engaged in freehand drawing, instrumental drawing and perspective, clay modeling, water color, and methods of teaching drawing in grammar, high, and normal schools. Some of the pupils also took an afternoon course in wood-carving.

The Normal Class was formed two years ago, and though several have taken positions, the first graduation occurred in June, at which time nineteen received certificates upon completion of the course of two years. In addition, quite a number have also given much time to the higher work of the regular art course, and many will return to pursue a course fitting them to become instructors in art schools.

TECHNICAL DESIGN.—Last September, the room devoted to design

was fitted with screens, thus forming alcoves, so that specimens of oil cloths, wall papers, textile fabrics, and miscellaneous designs could be hung before the pupils for constant use and reference.

At first the pupils of the morning classes studied outline drawing and pattern analysis, and from this advanced to the use of color, making original designs for tiles, etc. Many of the designs were suggested by plant forms, and others were based upon historic motives. The advanced students spent their time upon designs for wall paper, carpets, etc., and several orders for designs were given unsolicited to the school by manufacturers.

Many of the students of the evening class were persons engaged during the day in ornamental work in wood, stone, or metal, and the instruction required, therefore, was somewhat different in character from that of the day classes. After much practice in freehand drawing and the fundamental principles of design, each pupil followed the special line of work most helpful to him in his daily occupation. The class was well attended, and much good work was done.

ARCHITECTURAL DRAWING.—A better class of students has been in attendance the past year; the work in all classes has steadily advanced, and the results have been very encouraging. Applicants were admitted to the morning classes in September, and none were received after that date, as the course of study is planned to cover two years. Students will advance from one class to another, and new classes will be formed only at the beginning of the fall term. The students have been present with great regularity, and have spent the greater part of every day in severe class work.

Large numbers of drawings have been produced, including plans, elevations, framing plans, drawings and sections of the various details which make up house construction. Much work has also been done in freehand drawing, design, and pen and pencil sketching. Text-book study has been a required feature, recitations having occurred several times each week, and examinations each month.

Several young men secured positions as draughtsmen before completing the course, while others have refused positions offered, preferring to finish the full course of study.

Large numbers of students attended the evening classes and exceptionally good work was done; but on account of the limited time the course for evening pupils was necessarily abridged. The elementary students made drawings of plans and of various constructive details, and the advanced pupils, in addition to the regular architectural drawing, began the study of instrumental perspective and also of freehand pencil sketching.

MECHANICAL DRAWING.—The morning class in mechanical drawing

has been small and, aside from the Technical High School classes, the principal work has been carried on in the evening. A complete course of study has been planned for the coming year, and special arrangements made to develop this line of work. The evening classes were very large, and were carried on in three divisions. Working drawings were made of geometric and machine models, and much work done in plane geometry, intersection of solids, and surface developments. Models to illustrate the latter work were made by students. The work performed by the classes was most satisfactory, and the students were earnest and faithful in their attendance. The pupils of the advanced classes received instruction in draughting various engine details, with analysis of construction.

An evening class in mathematics was composed of students from the mechanical and the architectural drawing classes. Though the formation of this class was a new departure in evening work the pupils signified their wish to become members as soon as the proposal to organize a class was made. Instruction was given once a week to a class of thirty, and the results of the experiment were so favorable that more advanced and systematic work will be carried on another year.

WOOD-CARVING.—Instruction in this branch was given to a class of morning students, to the Technical High School pupils, and to the afternoon and evening classes. Several of the morning students have spent two years in study, and five received certificates at the close of the term in June.

From simple surface patterns the pupils advanced to modeled ornament in low and in high relief, and to the designing and carving of furniture. A great deal of very satisfactory work was accomplished, and the rapid progress and development of this subject is a matter of much interest. The students have also taken a parallel course in freehand and mechanical drawing, design and clay-modeling.

The pupils from the Technical High School, and those in the afternoon and evening classes showed much enthusiasm for the work, and produced some very creditable results.

The afternoon class was composed of pupils from the morning normal class, and of persons who could not attend during the morning session. The work was necessarily much simpler, and modeling in clay was not attempted. The first class organized for evening work began in October, and increased in numbers throughout the winter.

CLAY-MODELING.—Morning instruction was given to normal and to wood-carving students, and to the pupils of the Technical High School Department, the classes meeting in several divisions. The students modeled from casts, from photographs of ornament, and from plant forms.

As the pupils advanced in work, time sketches were required, and also original designs for simple ornament.

The evening classes were composed of pupils engaged during the day in ornamental relief work. All new pupils were first admitted to the class in design, and taught to make bold free drawings and original designs. After this, modeling was taken, and considerable creditable work was accomplished by the class; many of the modeled ornaments were cast in plaster. Arrangements have been made for a much more complete and systematic course of study for the coming year, and much is expected from this subject, it being so directly helpful to many kinds of ornamental work.

ART NEEDLEWORK.—In April, the classes in art needlework were added to those of the Art Department. As no afternoon or evening classes were held during the third term, reference here can only be made to the morning classes. The work of the morning, afternoon, and evening classes of the two preceding terms will be defined in the report of the Domestic Science Department.

The pupils who entered in April were engaged upon white work, further specified as drawn work, laid work, lace stitches, and Roman lace. The advanced students embroidered in solid and half-solid Kensington stitch, appliqué, Spanish laid-work, and stained-work, outlined with gold thread. They also made several pieces in various stitches which showed the effects of color in darned work. Many of the designs used by the advanced class were original, instruction being given by the regular teacher in design. Several of the pupils devoted a large part of their time to drawing and design.

TECHNICAL HIGH SCHOOL CLASSES.—This department sent five classes of pupils to the Art Department. Four came daily, and the fifth, a class of girls, came twice a week. Excellent work was done by all classes.

The two classes of First Year pupils spent half a term in the freehand drawing, and half a term in instrumental drawing. They then entered the studios, drew from casts in outline, and blocked in the masses of light and shade. Freehand perspective, design as related to form, clay-modeling, lettering, surface developments and intersection of solids completed the course for the year, much of which was time work. Besides the course of drawing explained, the girls of the First Year Class took wood-carving twice a week for the entire year.

The Second Year Class took freehand drawing in outline, and light and shade, lettering, perspective, building and machine construction, and after a series of lectures on the history of architecture and ornament, handed in sheets illustrating the development of the subject.

The Seniors were engaged on mechanical drawing the entire year, covering in this time cams, gear teeth, engine details, slide-valve analysis, and assembly drawings.

DOMESTIC SCIENCE CLASSES.—Special afternoon classes were organized for pupils from the millinery and dressmaking classes of the Department of Domestic Science. The course was planned for a limited time, as each class gave but an hour and a half a week. The essentials of simple outline drawing were covered, however, and the pupils learned to sketch drapery, etc., freely and effectively, and to apply flat washes of color.

EMPLOYMENT.—Earnest, faithful, hardworking students have been aided in every way possible, and testimonials given when deserved. Many have received employment for whole or part time. Several young men have taken positions as draughtsmen. Several of the Normal Class have received positions as teachers, others have private pupils, while quite a large number of pupils from the different classes have been able to pay their school expenses in whole, or in part, by various kinds of decorative and illustrative work.

DEPARTMENT OF DOMESTIC SCIENCE.

THE aim of the department, as set forth in the charter of the Institute, has been more fully realized during the past year than it was dared to hope; its growth has been shown by marked improvement in the quality and practical results of the work, rather than by increase in the number of pupils. More time has been devoted by pupils, both in class and out, to every branch of work undertaken, and this has necessitated limiting students to a single course at a time, unless they could devote their entire attention to the work. This is a step in the right direction, as is evidenced by their more thorough understanding of each subject.

The opportunities afforded by this department have been largely embraced by girls and women, many of whom wish to fit themselves to make happy homes of their own, others to do professional work that they may become self-supporting. There have been 944 individual pupils in the department during the year; of this number, as nearly as we can ascertain, 766 have taken the courses to fit themselves for a more useful home life, while 178 have endeavored to become skilled workwomen. Forty of the pupils have come from other cities and towns.

One of the most encouraging features during the past year has been the visibly increased earnestness of the pupils in their work, as well as a

growing appreciation of the advantages afforded them, not alone in the specific instruction received, but in the training to habits of system and order, and to keener observation and self-reliance.

An enthusiastic interest has been shown by the teachers in the development of their work and the individual progress of their pupils. There have been this year twenty-two faithful and efficient instructors in the department.

In all branches except household economy and laundry, which have been lately added, there have been morning, afternoon, and evening classes during the fall, winter, and spring terms, in all of which the attendance has been uniformly good. The figures show a decided improvement upon the attendance of last year, notwithstanding the fact that in dressmaking and millinery the number of lessons per week was doubled. It is worthy of mention that the average attendance in the evening classes has been nearly equal to that of the day, though the number of lessons per week was the same in both. During the entire year there have been classes in dressmaking, millinery, and sewing, on Tuesday as well as Monday, Wednesday, and Friday evenings.

The facilities of the department were much increased in September by the addition of five new class-rooms, one for advanced dressmaking, two for sewing, one for art-needlework, and one for hygiene, with another as a private study-room for teachers. These rooms were attractively furnished with every equipment necessary. Some seventy pictures were carefully selected and hung in the different rooms and hallways, affording much pleasure and instruction to both teachers and pupils.

Schedules of fourteen courses of instruction have been revised, type-written, and placed upon the bulletin board of each class-room, as well as upon that in the office of the department, and type-written lists of advisory reading in connection with each branch of work have also been placed in the class-rooms.

A teachers' meeting has been held from 4:15 to 5:30 p.m. on alternate Mondays throughout the year, at which the work of the various classes was discussed, and articles bearing upon similar work elsewhere were read and commented upon.

A lecture was given in the Assembly Hall on April 16, by Mr. Edmund Russell, on "Artistic dress," and was listened to with interest by nearly two hundred pupils from the Art and Domestic Science Departments. The lecture was illustrated with beautiful textile fabrics from the rooms of the Associated Artists of New York. Mr. Russell also spoke informally to the art students on poses of the figure.

On May 7, Mrs. Annie Jenness-Miller spoke to an intensely interested

and enthusiastic audience of more than six hundred women, the greater number being students of the Institute. Her subject was "Healthful and artistic dress," and was illustrated by appropriate costumes. So great an interest was created that it seems wise to organize a course of such lectures during the coming year.

Much time, thought, and strength have been expended by teachers and pupils in preparing for the exhibition of the National Teachers' Association at St. Paul—thirty-two hats and bonnets, numerous dresses, many exquisite samples of sewing and dainty undergarments, also a doll's entire wardrobe, as well as all that could be shown of the cooking, hygiene, and other branches of work, being prepared for this purpose. It is a satisfaction to learn that the results of this untiring labor received much praise from the many visitors at that exhibition.

COOKING.—The regular course in cooking for the year 1889-90 has comprised two systematically graded courses. The first course of six months, which covers all the principles of cookery, has been entirely revised, combining the first and second of the previous year, they being so closely allied that neither was complete without the other. Many of the pupils, however, were admitted for the first half of the course, as it was found impracticable to require them to pledge themselves for six months; nevertheless, of the one hundred and fifty-three enrolled in the fall, only eighteen withdrew before the completion of the second term of three months, and their withdrawal was unavoidable. The second course of three months, which includes more complicated cooking, combining and elaborating the principles taught in the first, was revised and extended, and now seems complete.

Twenty-two pupils have completed the course of nine months, having satisfactorily passed two written examinations and numerous practical tests, terminating by the cooking and serving of a dinner of five courses. To these, certificates have been awarded, nine in December, nine in April, four in June.

A course of twelve lectures, treating of the chemistry of cooking, nutritive properties of foods, marketing, serving of meals, etc., has been given each term by the several teachers. These were repeated for the benefit of the evening classes, but were so poorly attended that it was deemed best to discontinue them during the winter term. Two marketing lectures were given during the year in the Assembly Hall, practically illustrated by our butcher, who brought sides of beef, mutton, and pork, and cut them according to rule as the various points to be observed in judicious marketing were explained by the teacher. These lectures were free to pupils of the cooking school, and were fully attended and highly appreciated.

INVALID COOKERY.—During last summer the course in invalid cookery was entirely revised and extended from six to twelve lessons. Copies of the new course were sent to several of the training schools for nurses and to a few physicians, asking for criticism. We received only high commendations. Several classes, some of them composed of nurses from the Homeopathic Hospital, and from the Brooklyn Training School for Nurses, have completed the course during the year. The same instruction was also given by one of our teachers to a class of nurses at the Seney Hospital.

Besides the regular classes in cooking, private lessons have been given to ladies living out of town, to cooks, and to housekeepers who desired special instruction.

A course of twenty lessons in the first course of cooking was given by one of our regular teachers on Tuesday evenings during the fall and winter terms at the Central Working Girls' Club on Sands Street.

During the summer a third kitchen was fitted up, and opened for use October 1. Under our supervision six marketing charts have been painted by a pupil of the Art Department from sketches made in the markets. These are valuable aids in the cooking school.

Much study has been given to arranging the work in the Normal Course of cookery to be opened in the fall, for which a number of applications have already been received.

The attendance in cooking during the year 1889-90 was excellent, and the average number of practice dishes made at home by each pupil was nearly twice that of last year.

HOUSEHOLD ECONOMY.—A class of eleven, meeting once a week, was organized January 2, 1890, in household economy. This was the first class to undertake the course, which consisted of twelve lectures or talks on sanitation, ventilation, and heating of the home; the care of cellars, yards, fuels, kitchens, oil stoves, and lamps; the laundry and the dining-room; cleaning and care of drawing-rooms and sleeping apartments, store-room and linen closet; household courtesy and entertaining; household accounts; and the relations of mistress and maid. These were practically demonstrated as far as possible, and the pupils were expected to take notes and to answer questions on the previous lecture, and were also encouraged to ask questions relating to the subject under discussion.

The class was very enthusiastic, the attendance excellent, and many cases were reported where the instruction received proved at once a practical aid. At the beginning of the spring term, another class was formed, smaller than the first because of the lateness of the season, but no less enthusiastic.

LAUNDRY.—In April was formed our first laundry class, composed of

two young ladies who desired to be able to direct such work in their own homes. They showed a very encouraging interest and a real desire to perfect themselves in both the scientific and the practical part of the work, nor were they reluctant to do any part of the hard labor ordinarily performed by laundresses.

The course comprised twelve lessons, with instruction in the simple chemistry of cleansing clothing and household linen, and the practical application of these principles in washing, removing stains, starching and ironing. Pupils brought clothes to launder in class under the supervision of the teacher, and were encouraged to practice as much as possible at home. The young ladies of this first class did some excellent work, and at our annual exhibition in May, the dainty laces, embroidered muslin dress, table linen, shirt, collars, etc., the work of their hands, attracted much attention, and received high commendations. The lessons were given by the teacher of household economy. It is to be hoped that many will take advantage of this course during the coming year, both for home and for professional use.

SEWING.—Two new class-rooms, fully equipped and devoted entirely to sewing, were provided at the beginning of the year. The complete course now includes three graded courses of three months each, two lessons a week.

During the past year much has been done to enlarge and improve the work. Class methods have been introduced even in the second course, which is devoted to machine sewing and making of simple garments and cambric dresses. The number of pupils in attendance during the year, 630, has been nearly double what it was a year ago. The interest seems to increase, and the idea that neat hand-sewing is the foundation of all other kinds of needlework is becoming prevalent. The pupils were stimulated to increased endeavor by the specimens of exquisitely neat sewing done by the school girls of France and Germany, which, in the fall, were placed on view in the class-rooms, where they were easily accessible to the pupils.

At the beginning of the spring term a third course was added, in which the pupils were perfected in fine hand-sewing and machine work, and taught to cut and make all kinds of dainty undergarments and baby linen. When a pupil shall have satisfactorily completed the three courses in sewing, and made successfully a baby's fine dress and a lady's cambric sack, without supervision, she will receive a certificate.

There were made in class, during the year, 573 garments, and 55 garments were made at home without assistance.

CHILDREN'S CLASSES.—Two classes for children, meeting on Saturday

mornings, have been full to overflowing throughout the year, averaging twenty-seven in each class. The work done by many of the little girls has been quite as exquisite as that of the older pupils. Various garments for dolls have been made as neatly, and as deftly fitted by these little fingers as the most conscientious workwoman could desire.

DRESSMAKING. — In September a second class-room for the more advanced work was furnished and added to the Dressmaking Department, thus enabling two separate classes to work during the same hours.

When it is remembered that the number of lessons in each course has been increased this year from twelve to twenty-four, and that a short course in drawing and water-color design has been offered the pupils in connection with dressmaking, as well as with the millinery, a marked improvement will naturally be looked for in the result of this year's work as compared with that of last. Such a decided step forward is clearly shown in the greater neatness and more workmanlike finish of the dresses, as well as in the better selection of materials, designs, and colors. The teachers have striven zealously to accomplish this, giving time to the study of drawing and water-color, to reading, and attending lectures upon the subject. The ideas thus gained they have imparted to their pupils in talks on the various materials which may be used for gowns, on the peculiar textures, shades of color, and the suitability of each for different uses and individuals, also on form, including the most becoming manner of making a dress, and the adaptation of the natural folds of materials to the lines and character of the figure. These talks have been given in the first course as well as in the second and third.

The system of cutting and fitting from measure was changed January 1. The new one, Brown's Scientific System, has stood, most successfully, the practical test of fitting 337 dresses for all varieties of figures, and is one on which we can thoroughly rely, and which we can conscientiously recommend as comparatively simple and clear.

At the beginning of the spring term, a class in the third course was organized from pupils who had satisfactorily completed the second. In this, the cutting and making of tea-gowns and jackets was taught. The work showed considerable skill in the light, tailor-finish used in making jackets, as well as in the number of pretty house dresses completed.

Many of the pupils have been six months or a year in the sewing classes, and give evidence of the thorough and practical training they have gained in the ease with which they are able to overcome the difficulties of dressmaking. Of the two hundred and five individual pupils who were entered during the year, as far as we could ascertain, one hundred desired to be able to do good work at home, eighty came hoping to become pro-

fessional dressmakers. Many of them have already put their instruction to practical use. Nearly all have without assistance made several dresses at home for themselves or others. 256 dresses, besides 77 dress skirts made and draped, and 58 children's dresses, have been completed at their own homes by the pupils. Most of this work was brought for the teachers' inspection, and was very satisfactory.

MILLINERY.—This year, for the first time, we were able to reserve one large room for the exclusive use of the classes in millinery, and it has proved of material benefit to the work. Nevertheless, on Tuesday and Friday evenings during the spring term we have had two classes, separated by screens, at work during the same hours. This year, also, for the first time, we have had two teachers who could devote their entire time and attention to these classes and to improving and rearranging the course of instruction. They have been assisted by a third teacher, a former pupil.

The complete course this year has comprised three terms of three months each, two lessons a week, being double the number of lessons given a year ago. To this fact much of the improvement shown must be attributed. The materials have been selected by the pupils with far better taste, due principally to the talks on the suitability of material and harmony of color, and to the short courses in drawing and water-color introduced during the past year as a part of the instruction.

The making of hats and bonnets of black crape and silk was introduced into the second course at the beginning of the winter term, and after six months' trial has proved the one thing needful to complete the variety of work undertaken and to afford the pupils a kind of training heretofore gained only by long experience in a regular work-room. The exquisite finish of most of this work shown at our annual exhibition called forth the praise of many milliners.

Owing to this thorough training in the first and second courses in the various principles employed in the making of all kinds of hats and bonnets, the work of the third course, in which nice materials exclusively are used, shows this year more artistic ability, and more of the dainty and skillful handling which characterize the light touch of the real milliner. In order to gain a greater variety of material and more practical results for the pupils of the third course classes, a new step has been taken in the receiving of orders for the making of hats and bonnets at a nominal price. These orders have been executed in the class, and twenty hats and bonnets have thus been made, and have given entire satisfaction.

Most of the pupils have been able to make practical use of the instruction in this department. Of the one hundred and fifty-two individual pupils who received instruction during the year, seventy-three undertook the

course for home use, sixty-two to become practical milliners, if possible. Nearly all have made numbers of hats for their friends. Three pupils take orders at home, and have thus made upward of seventy-five hats and bonnets in less than a year. Seven of the pupils have come from out of town to take the course. 980 hats or bonnets, most of which were examined by the teachers and pronounced satisfactory, were made at home during the year by the pupils.

Drawing: October 30, three classes, with a total of eighty pupils, all of them members of the dressmaking and millinery classes, began a course of freehand drawing and design, to help in training the eye to appreciate good form and color, that it in turn might aid the hand in doing more artistic work in both these branches. The classes met once a week for an hour and a half, instruction being given by an assistant teacher of the Art Department, and being free to the pupils of the dressmaking and millinery classes. January 2, there were three classes in drawing, with a total of one hundred pupils, twenty-one of whom advanced to second term work, drawing entire dresses and trimmed hats, making original designs, and beginning to color them with water-color. The work was of a better quality, and the attendance an improvement at first, but toward the end of the term it fell off again when the necessity for home work increased in the dressmaking and millinery classes. At the beginning of the spring term, two elementary classes of twenty-five pupils each, and one advanced class of sixteen were organized. A great effort was made to secure more regular attendance, but as the term wore on it was seen to avail little. Nevertheless, some excellent work was done by those who did attend regularly. A different plan will be adopted for the coming year, and, it is to be hoped, will prove more successful. It is hard to persuade the mass of our countrywomen that training in drawing and water-color has any vital relation to the making of artistic hats and gowns, though it is undoubtedly the secret of the power of Parisian modistes.

ART-NEEDLEWORK. —The course in art-needlework was extended and revised before the beginning of the fall term so that there were two regular courses, each occupying one year. The morning or advanced class met every day excepting Saturday, from 9 to 12 o'clock, and undertook a thorough study of design in its application to art-needlework used in interior decoration. No pupils under seventeen years of age were accepted, and none who had not some knowledge of embroidery.

A class of six began the course October 1, and worked diligently throughout the term. Considering that none of the pupils had ever before attempted to draw or design, the results were good. The instruction in drawing and design was under the direction of the Art Department.

An afternoon or elementary class of six pupils, and an evening class of eight, each received two lessons a week. The course was similar to that of the morning class, greatly abridged, however, and open to all who could sew neatly. In these classes some excellent work was done, and many of the pupils became so interested that they joined the morning class. At the beginning of the winter term, the number in the advanced class was thus increased to nine, and the session extended to 12:45 o'clock. The class attended lectures on design in the Art Department, and visited the Metropolitan Museum in New York, our own museum, and others, to study textiles and embroideries.

The new room, conveniently furnished, and embellished with casts of ornament and with numerous pieces of embroidery brought from Europe, exemplifying all kinds of art-needlework, was ready for use September 30, and added greatly to the interest and efficiency of the course. A number of valuable books of design were also placed where pupils could study them. In January a set of sixteen samplers from the Royal School of Art-needlework in Berlin was arranged in the class-room for the use of the pupils, and suggested many new ideas.

During the latter part of the winter term the quality of the work steadily improved, and three new pupils entered. From September 30, to March 27, ninety-three designs, fifty-five articles of embroidery, and twenty samplers, all creditable work, were made by the pupils. At the beginning of the spring term the Art-needlework became a branch of the Art Department, it being evident that the course was more closely allied to that department than to the department of Domestic Science.

HYGIENE AND HOME-NURSING.—There have been seven classes in hygiene and home-nursing, numbering fifty-six individual pupils. Seven pupils were so interested as to desire even a third course of three months, and a class was formed January 1. The entire course now includes three terms of twelve lessons each, the last term being devoted to the care of infants and children, while the first and second comprise instruction in caring for sudden illness or accident, and in performing intelligently the duties of nurse where professional service is not employed. The lessons in bedmaking, bandaging, poulticing, etc., have been given by a lady teacher and practically demonstrated, and have been as interesting and helpful as ever.

Several of the students from the Brooklyn Missionary Training School have been members of the classes. Two lessons in home-nursing were given to the Normal Physical Training Class of the Adelphi Academy, who expressed themselves as much pleased and benefited. These lessons have been of practical value to all, and numerous cases have been reported

of illness or accident in which the knowledge here gained has been most helpful.

TECHNICAL HIGH SCHOOL CLASSES.— Eight girls, members of the First Year Class of the Technical High School Department, received, during the fall term, two lessons a week in sewing and one in cooking. At the beginning of the winter term it was deemed wiser to defer all instruction in cooking until their third year, when they will have studied physiology, hygiene, and chemistry, all of which will aid them in cookery. Thus they were able to devote three lessons a week to sewing during the winter term, and made great improvement, nearly finishing the first and second courses, which a few lessons in the spring term completed satisfactorily. They also received two lessons a week during the spring term in hygiene and home-nursing, completing the first and second courses. Their work in this branch was excellent, and their interest continued to the close.

The one girl of the Second Year Class received three lessons a week in millinery, finishing the first course with credit during the fall term, and the second course satisfactorily in the winter term. She joined the first year class in hygiene and home-nursing in the spring term.

EMPLOYMENT.— *Cooking*: Many of our pupils in cooking have put to professional use the instructions here gained. One who completed the nine months' course in the spring of 1889 took charge last fall of a class at the Young Women's Christian Association, and has received the highest encomiums from the managers. Her class has grown so large that she has been obliged to form a second. At the beginning of the winter term a call was made from the Brooklyn Guild for a volunteer teacher to instruct a class of mothers in economical cooking; one of our pupils who entered in the fall was sent, and she has been most successful. Another who commenced our course in the fall has a class of young girls at the Children's Aid Society. Four others have taken the six months' course as a part of their preparation for work in foreign mission fields. Eight of our pupils were practical cooks, all of whom completed the six, and five the nine months' course; they kept their interest to the end, and were greatly gratified to find how much they had added in a short time to the knowledge it had taken them years of hard experience to gain.

Dressmaking: Two pupils in dressmaking have already started establishments of their own, one employing girls to help her, while four other pupils are getting work-room experience as assistants to dressmakers. Two young women who were seamstresses have taken the course, and now, not being obliged to confine their engagements to the making of underwear or the mere sewing of gowns, derive a larger income through their ability to undertake the more complicated work of dressmaking. One young lady who

was in our last year's classes has been nine months with an experienced dressmaker and has given satisfaction. A pupil of the first dressmaking class formed at the Institute reports that she has all the orders she can undertake.

Sewing: Two former sewing pupils have had their time occupied by teaching this branch at the Young Women's Christian Association, and one has lately taken the course in dressmaking that she may be able to teach this also. Another has been teaching in a mission school of the city.

Millinery: One young lady who went through the millinery course has been teaching this branch at the Young Women's Christian Association, while two others have been satisfactorily filling positions as makers in large millinery establishments. One pupil, a professional dressmaker, has been using the millinery knowledge here gained in making hats and bonnets to match the gowns of her customers, thus completing the entire costume. She feels that in this way she has added valuable capital to her business.

DEPARTMENT OF PHONOGRAPHY AND TYPEWRITING.

WITH the close of this year, ends the second year's work of the Department of Phonography and Typewriting. Instruction during the first year was confined exclusively to the evening, but during the past year it has been given to both day and evening classes, and the result of the work, both in attendance and progress, has justified the change, and has practically demonstrated that in this line of work, as in others, day instruction can be much more successfully accomplished.

The examination of applicants for admission to the classes of the first term was held Friday evening, Sept. 19, and Wednesday evening, Sept. 25. Both day and evening classes began work Sept. 30, with 158 pupils enrolled. The enrollment for the subsequent terms was 159 and 156, respectively.

The wisdom of requiring applicants to pass an examination for entrance into this department has been satisfactorily proven during the past two years. While the requirements for entrance, both as to age and qualifications, have been quite rigid, still it would be wise to make them even more so in the future, especially as regards age of pupils. Our limit has been seventeen years, but on several occasions we have accepted younger pupils, and they invariably have been a hindrance to other students. The courses of study have been so planned as to come within the grasp only of older persons who desired to get the benefit of them for business pur-

poses, in the shortest time, and the examination undoubtedly has debarred many from taking up the study who would certainly, on account of lack of general fitness in its practical application, have met with disappointment and failure in the end. As an instance, at the beginning of the second term fifty-seven applicants were examined, and just one-third of the number were rejected.

While our special aim in the instruction of shorthand has been to train competent amanuenses, yet on account of its great value as a time and labor saving auxiliary to the professional, business, or literary man, it might be well to prepare a special course of study so that students of the public high schools and academies might be afforded an opportunity of learning the art. The saving of time effected by phonography to any one who has much writing to do is self-evident. For this reason, it would seem that every one should learn it for his own personal usefulness, and a course of lessons which would extend over, say, two years, so as not to interfere too much with regular school studies, might be judiciously and beneficially introduced.

Owing to the large number of students received for the shorthand classes, and the limited number of rooms devoted to the work of the department, it was found necessary during the first term to give instruction on Tuesday and Thursday evenings also, which necessitated having classes on every evening in the week. During the second and third terms, however, the classes were combined so as to give instruction on those nights only when the Institute was regularly open—namely, Monday, Wednesday, and Friday.

The evening work of the department was continued through the third term—thus making nine months' continuous work—in order to accommodate those students who wished to come, and all classes took advantage of this extension. No new pupils, however, were admitted in the phonographic classes, but a few were accepted for the typewriting class. The attendance was all that could be reasonably expected, and while it decreased somewhat during May and June, it bears a favorable comparison with the second and third months of previous terms. In view of this, if the question should arise as to the advisability of hereafter having evening classes as a regular thing in this department, during the spring term, it would seem wise to favor such a plan; but not, however, to admit new students for this term, as it would only give them three months' continuous work, whereas they should be able to attend at least six months continuously, to derive any benefit.

At the end of the first term one evening phonographic class of the previous year reached a speed of 115 words per minute on new, and 135

words per minute on familiar matter. As our standard for graduation is 100 words per minute on new matter, with the ability to correctly transcribe the same, this was termed the first graduating class. At the close of the year, a day and an evening class were also graduated.

The work of the Typewriting Division was divided into three classes — two day, and one evening. The average number in the day classes was forty, and in the evening class, eighteen. The instruction in this branch, as well as in the phonographic, has been greatly systematized during the year. As the result of our experience is given in detail in the courses of study in the catalogue, it will not be necessary to make further reference to them here.

The number of individual pupils enrolled for the year was 230, and the average attendance was 87 per cent.

The year's work of both teachers and pupils has been of a very satisfactory nature — the teachers' work, on account of their earnestness and devotion to the best interests of the Institute, and the pupils' work, on account of their faithful attention to their duties. The most gratifying feature, however, is the success which many of the graduates have met in securing employment; thus realizing not only their ambition, but one of the hopes of the founder of the Institute in giving opportunities to persons to become self-supporting members of the community.

DEPARTMENT OF MECHANIC ARTS.

THE past year has seen a greatly increased efficiency in the work of the department, compared with that of the year previous. The gain has come in part from the increased familiarity of the instructors with their work, and in part from the greater completeness of the apparatus of instruction, and, as a whole, has been of a nature that promises similar improvement for many years to come.

TECHNICAL HIGH SCHOOL CLASSES. — The modifications and changes in the Technical High School shopwork courses have made it possible to accomplish a larger amount of work than before, and at the same time to raise the standard considerably.

During the year, exact working drawings were made of each exercise in the entire scheme of shopwork, and blue-print copies obtained from these and mounted in various ways for individual use. The use of these drawings has not only facilitated the work, but by placing an exact copy before each boy, an incentive to greater accuracy is given, and fewer mistakes are made.

Quite a little change has been made in the work of the first year, and has tended, in the benchwork, to reduce somewhat the number of constructive pieces, and at the same time to elaborate the primary exercises, with a view of securing a stronger foundation, and consequently a higher standard for the advanced work.

The course in turning has been remodeled, and the pattern-making practically laid out anew. More time has been devoted to this latter work, and its scope considerably increased.

Experiments have been carried on during the year with the view of developing a course in the elements of metal spinning. The results of these trials were eminently satisfactory in solving many of the problems which stood in the way, and after the construction of the necessary tools and an annealing furnace, a course of exercises involving various forms of bowls, ewers, vases, etc., was successfully practiced and formed part of the school exhibition at St. Paul.

The Second Year Class progressed most favorably in forging, and the showing in the several extra projects undertaken by them has been most creditable.

On May 13, this class started on the first work in tinsmithing. The object of this course is to give a knowledge of the properties and of the manufacture of the materials dealt with, and practice in the operations of soldering and brazing and laying out of sheet metal work. This latter is a direct application of principles previously learned in the drawing-room, and is so related to that work as to form a continuation and expression of it. Various forms of pans, cups, and pipe joints have been made from sheet-tin, and simple forms of cylinders and spheres beaten out of copper.

The Third Year Class devoted the first term to the completion of the course in forging, after which they entered upon the work in the machine shop, and spent one term upon benchwork and one upon the machine tools, completing in this time all the regular exercises. This class, by leaving out large projects and concentrating upon the vital portions, has been enabled to accomplish almost the complete course in shopwork in a little over two years. Lectures on the various processes of making iron and steel, touching upon the economic factors involved, have been given during the year to this class, as have also lectures on the theory of the steam engine. These latter have been coupled with the analysis of the slide-valve action carried out in the drawing-room.

On the whole, the year's shopwork of the Technical High School has been highly satisfactory, and has made possible the completion of the three-year course in all its essential details.

AFTERNOON CLASSES. — The afternoon classes of the year have con-

tained many bright and promising pupils, and have done earnest, faithful work; but the comparatively small results possible from these classes make it evident, as has been before pointed out, that they must always be of secondary importance, and chiefly valuable as introductory to the broader work of the High School course.

TRADE SCHOOL. — The evening Trade School work of the past year has made a very considerable advance upon that of the year previous.

Past experience has pointed out the weak points of the work, and every endeavor has been made to improve in these directions — first, in defining the courses with greater exactness; second, by using class methods of instruction throughout; third, by presenting the scientific principles bearing upon each subject in short lectures during the year. The improvement along these different lines has been very decided, but much still remains to be done.

In carpentry a very successful course was accomplished. At first the class took much the same elements as the High School course, after which the details of house building were dealt with under conditions as near those of actual practice as possible. Partitions were set and bridged between the heavy yellow pine floor posts of the room, and upon this basis sheathing, clapboarding, and shingling were practiced. Doors and windows were made and hung in frames built in the same partitions, which were lastly provided with cornices and trimmed inside. Newel posts and stairs were also built during the course.

The year's course in machine work was much the same as that pursued the year previous, and the necessity then met with of forcing the student in order to complete the course was again realized. There is no doubt but that the successful completion of a thorough course in machine work will require two years.

The class in bricklaying, by systematically pursuing a definite course, was enabled to accomplish considerably more and better work than ever before.

The work in plastering has also been very encouraging, and extended through practice in hard finishing to the running of simple cornices.

In plumbing, the grade work has improved very decidedly. The course has been more definitely arranged, and lectures have been given each Wednesday evening upon standard methods of construction, and upon the scientific principles of drainage and ventilation.

These lectures have been very helpful, but lectures alone are not a sufficient means of presenting these subjects. Opportunity must be given for repeated and more leisurely study of the problems involved, and for this purpose, a condensed summary of the points brought out in the lecture must be in each student's hands.

The manager of the New York Trade Schools has kindly consented to allow the manuals employed in those schools to be used in the trade classes of the Institute, and they cannot fail to be very helpful in supplying this want.

The present need in the problem of the Trade School is harmonious co-operation between the trade organizations and the schools, in order that the graduates of such schools may occupy a definitely recognized position in the field of labor, and that the schools may receive the moral support of such recognition.

The liberal and enthusiastic spirit evidenced by the Master Painters' Association of Brooklyn, in regard to establishing painting classes at the Institute next fall, is a most encouraging sign in this direction.

The year has allowed another problem, that of developing the proper means to meet the great demand for instruction in the principles of practical electrical construction, to be solved. The pioneer work of the first term was followed by a stronger and more complete course in the second, and has established the course with well-defined methods in instruction, and a fairly complete set of experimental apparatus.

MUSIC DEPARTMENT.

THIS report indicates considerable progress in the Music Department, not so apparent in the number of students, as in the plan of the work and in the progress made by the students.

The work of the past year has been far in advance of the first year. The basis has been somewhat different, which renders it difficult to make a just comparison. It is a satisfaction to note that the further the pupils advance the more interested they become.

A steady growth of feeling in favor of Tonic Sol-fa, not only in this city but in the country at large, has made itself manifest.

If any proof were needed as to the wisdom of establishing a Normal Course such as has been recommended, it is found in the strongest possible form in the applications received for Tonic Sol-fa teachers. Music has always suffered because of the scarcity of trained teachers. Pratt Institute can provide thoroughly-trained teachers, and thus supply a long-felt want.

The department has been much inconvenienced through lack of proper accommodation, but it is pleasant to know that provision is to be made for the coming year.

The first lecture of the department was given by Mr. Daniel Batchelor, of Philadelphia, on February 10, upon the subject of "The Rhythm of

Nature." The lecture was a success, and favorable notices of it appeared in several newspapers and journals.

The first concert of the Choral Society took place on April 14, in the Assembly Hall of the Institute, before a large and appreciative audience. About seventy of the members took part in the concert, which was well and favorably noticed.

The evening Normal Class had the privilege of listening to a lecture given by Mr. Allen, of the Technical High School Department, upon the subject of "Musical Acoustics," which proved to be a valuable contribution to the work.

Suggestions for next season have already been laid before the Trustees. The extension of the department next fall makes necessary the appointment of an assistant teacher for the permanent staff. We shall, in all probability, need several other teachers, but they can be engaged as occasion requires.

The Choral Society has undertaken Gaul's "Holy City" for performance next season, and judging from the spirit which pervades this growing body of singers, we may expect a good concert.

Mr. William Potts, of Brooklyn, has kindly consented to deliver the opening lecture before the department, upon the subject of "The Value of Musical Education," and from this lecture great results are hoped.

In response to the question proposed by the Trustees as to the wisdom of adding instrumental music to the Institute curriculum, it would seem best to reply in the negative, for the reasons that instrumental instruction can be had anywhere and everywhere, and that the present musical experiment should be thoroughly tested first, then instrumental music can grow out of it.

It is of interest to know that the American Tonic Sol-fa Association and College of Music issued over one thousand certificates during the past year, more than have ever been issued before in the United States. It has college members in many states of the Union as far away as Idaho, Washington, California, and Kansas, as well as in many states less remote.

NUMBER OF CLASSES AND GRADES.— There have been seventeen classes, including the Technical High School work, as follows :

- Two Normal classes,
- Two Third Grade classes,
- Four Second Grade classes,
- Seven First Grade classes,
- One Staff Notation class,
- One Choral Society.

NUMBER OF PUPILS IN DAY CLASSES :

First Grade	39
Second Grade	12
Third Grade	10
Normal Grade	5
Total	<u>66</u>

NUMBER OF PUPILS IN EVENING CLASSES :

First Grade	91
Second Grade	39
Third Grade	21
Staff Notation	7
Normal Grade	8
Choral Society	54
Total	<u>220</u>

There were also twenty-six associate members of the Choral Society, and seventy members of the Technical High School, making a total of three hundred and eighty-two.

The Choral Society was in session eight months, and the two Normal classes six months each, so that, calculating on the basis of three months, as in the other departments, the number of pupils would be something like six hundred and forty-two.

There have been in the neighborhood of three hundred and fifty lessons, covering about five hundred hours.

Four hundred personal examinations have been given, practical and theoretical, three hundred and eighty-two of which were successful.

TABLE OF CERTIFICATES.

	PRACTICAL	THEORETICAL
First Grade	90	144
Second Grade	50	60
Third Grade	16	16
Fourth Grade	1	
Staff Notation	3	
Harmony		1
Expression		1
Total	<u>160</u>	<u>222</u>
		382

With two hundred and one certificates granted last year, the total number granted to Pratt Institute students to date is five hundred and eighty three.

The results of the work during the past year are of an encouraging character, and with a little more time and continued application the Music Department of Pratt Institute will prove itself one of the important features of the Institute course.

TECHNICAL MUSEUM.

THE museum has been opened to the public on Monday and Friday evenings and Wednesday afternoons during the year.

The number of visitors has been as follows :

Monday,	7:30 to 9:30 p.m.	. . .	827,	average 28
Wednesday,	3:00 to 5:00 p.m.	. . .	1,513,	“ 48
Friday,	7:30 to 9:30 p.m.	. . .	1,449,	“ 47
			3,789,	“ 42
Total		. . .		

In addition to this it is estimated that during the exhibitions fully 4,500 people have visited the collection, and the total number would therefore amount to 8,289 — about 400 less than last year.

In regard to accessions to the museum there are some things of interest to be noted.

A large number of chemicals have been placed in the cases under the heads of the various elements to which they belong. The object of this collection is to impress upon the student the fact that they are connected with their respective elements and should always be thought of in connection with them. These have been labeled with their common names, scientific names, and chemical formulæ, and the uses to which they are put, or the facts which they are designed to teach are added. In selecting these substances only such as have a more direct bearing on the operations of every-day life have been chosen.

Another collection which should be of great use is that of common textile fabrics. Here are to be found all the common cloths, and with each specimen there is a short description, telling its common and trade name, quality, kind of weave, size, price, and country where it was manufactured. In addition to these labels, there will be others for each kind of weave, on which the threads will be shown much enlarged, so that their relations to each other can be seen at a glance.

The fact that the museum is shortly to be transferred to a new building has had a great influence on its growth during the past year. There have been hardly any new lines of work entered upon, but attention has been

chiefly directed toward filling up the spaces in the already existing sets of specimens.

The textile fabrics have all been removed from their special room and have been placed in cases in the main room of the museum, in order to give the space that they occupied to the art embroidery classes. This crowding together of the specimens in the main room has necessitated the mixing up of the collections to some extent, and has in some cases almost destroyed the arrangement and sequence which was to be especially brought out.

Notwithstanding all these drawbacks there have been added to the collection about 1,260 specimens, making the total number now in the museum 6,600. Of these about 3,900 are classed under minerals and rocks, and the remaining 2,700 belong to the technical collection proper.

It is to be hoped that as soon as the museum is transferred to its new quarters, it will expand, especially in the direction of the artistic side. For example, a large collection of wood carvings, ancient and modern, showing as many styles and as many varieties of wood as possible, should be added. In the same way, bronzes, marbles, etc., etc., should be shown, and all the specimens should be the best of their kind.

LIBRARY.

THE work accomplished in the library during its second year has been characterized by a systematic development in its various departments, looking toward a broadening influence and increasing usefulness.

To this end numerous plans have been inaugurated which have in view the future value and development of the library as well as its present efficiency. The quick success which many of these plans have met, when tested, has been a matter of encouragement and inspiration to continued effort.

The importance of the free public library as a factor in the education of the people, and as a means for the acquirement and dissemination of knowledge, is receiving more emphatic recognition from social scientists and educators every day, and this recognition should serve as an incentive to every library to push its influence and widen its scope of usefulness.

The library of the present day is not a musty collection of unused volumes of leisure, but a live community of hard-worked books, serving

an end which no other educational institution is so well adapted to serve. It furnishes books, and by books, ideas, to the practical mechanic, the housekeeper, and the school-teacher, and in so doing it furnishes them capital, by adding to their equipment for the performance of their duties in life.

REFERENCE DEPARTMENT.—No one who has not had experience in some much-used library can realize the extent of the demand made upon the reference department by its readers. The school-boy comes with a subject for an essay that has been assigned him by his teacher; he wants to read something that will help him in his task. The inventor is working up a patent, and wants to find if any one has anticipated his discovery, and also to read on this or that feature of his invention. The manufacturer is working out some new process or discovery, and wants to look up a fact in chemistry. All require help, and all require more or less personal attention.

In the case of the classes in the Institute where essays have been assigned, the teacher in charge has usually given a list of the subjects to the reference librarian some time beforehand, and material bearing upon each topic has been carefully selected, and a list of the references made out, which is placed in the hands of the student as a guide in reading for his essay. By thus having the subjects given in several days beforehand, more complete and systematic lists can be prepared, and the result is more satisfactory both to the library and to the students.

An index or subject catalogue is made by the reference librarian of all the topics which come up in this department, so that as new material is found from time to time, it has simply to be added to the list already made out upon cards which are arranged in alphabetical order. By this means, when a subject has once been looked up, the work done assumes a permanent character, and at the same time becomes available for the use of any member of the staff in assisting the public. This latter is an important consideration in this library, where every member of the staff is more or less often called upon to answer questions and give help to readers.

In addition to the regular work of looking up subjects and assisting readers, considerable work of a bibliographical character has been done in this department during the year. An extensive list of historical fiction bearing upon United States history has been compiled, and is now undergoing revision; a special list of books suitable for boys has been made with great care, and a much more comprehensive one of the same character is being prepared. Visits have been made to the Boston Public and other libraries for the purpose of collecting material for lists on domestic

science and other topics, and many courtesies have been extended by the Boston Public Library and by the Astor Library.

Special lists have been made on scores of questions of the day, and every now and then those books in the library which contain material on some matter that is agitating the public mind are placed in the delivery room, where they can be handled freely by the public. It frequently happens that nearly every volume so placed is drawn out by those who are or who become interested in the subject so presented. It is hoped to make the Astral branch of the library of practical benefit to the large number of factory employees in its vicinity, and to this end a great deal of very careful and discriminating work is being put into a list of books which will be suitable for this purpose.

Efforts are being made to complete the sets of English and American periodicals indexed in Poole, and these will form a valuable and much needed addition to the equipment of the reference department. Bound periodicals are placed in the reference room so as to be accessible to the public. A number of French and German reference books have been added to the shelves, such as Larousse, Brockhaus, Ersch and Gruber.

CATALOGUING.—The number of volumes catalogued during the year was 5,342. The partial time of four persons has been given to this work, and it is thought that the amount accomplished is a very fair showing. The title catalogue has been pushed as rapidly as the pressure of other work would allow, and now contains about 8,100 cards. The type-written class lists form the subject catalogue. These lists, arranged by topics, are type-written upon waxed paper and duplicated to the number of fifty or sixty copies by the cyclostyle, so that fresh ones may be on hand to replace those which have become soiled. They are put in binders and placed upon the tables in the delivery room for consultation. Monthly bulletins are made in the same way of books added each month.

RECLASSIFICATION.—It was decided at the beginning of the year to make some changes in the classification of the library, as it was thought that the latter would be of more use, especially in those classes of literature which related to the work of the various departments of the Institute, if it adhered strictly in its classification, to the scheme laid down by Mr. Dewey, instead of the modification of this scheme then in use.

This change involved a great deal of work, but it has been pushed steadily, and so as to interfere as little as possible with the circulation of the books, or with the other regular work of the library. In the course of

the year the revision of the classification in every class of the entire library has been made.

READING-ROOM.—The number of periodicals and newspapers has been increased, several foreign publications having been added to the list. The current numbers of all magazines and papers are placed on files and in racks where they are available without applying at the desk. The magazines are in binders with a sample cover of each magazine pasted on the face of its binder so that it may be readily recognized.

The patronage of the Reading-room has been very good throughout the year. The number of visitors recorded is about 20,000; but these figures, unfortunately, leave out the patronage which comes in the busiest time of the day, as at such hours the attendant in charge of the room finds it impossible to attend to her extra duties and keep the record. For the ensuing year a plan will be made by which this record may be kept, as it is a matter of interest to know to what extent the Reading-room is being used. The present figures, however, represent the attendance for all hours except from about half-past three to five o'clock in the afternoon, and for this time partially.

The number of volumes taken from the library for consultation in the Reading-room was 2,558. This does not include works of the character of reference books, as the entire reference library, as stated in the previous report, is open to the public, who go directly to the shelves in consulting these books.

AGE LIMIT.—In pursuance of the suggestion made in the previous report it has been decided to change the age limit from fourteen to ten years. The plan is to allow children from ten to fourteen years of age to draw books from the library, but only such books as shall be prescribed by the library authorities. Each child who desires to become a member will receive a card distinctive in color from the regular borrower's card, and at the same time he will be given a list of carefully chosen books from which he must make his selections.

No card of the distinctive color will be honored when presented unless accompanied by this list or by entries taken from it. The object of this rule is to enable the library to exercise a directing influence in the reading of the young, and to create in them a correct literary taste. Miss Burt's "Literary Landmarks" has been of assistance in compiling this list, which does not comprise over a hundred and fifty volumes. In selecting the books pains has been taken to secure attractive editions, and they are shelved separate from the other books in the library.

REGISTRATION.—The number of borrowers registered during the year was 3,026. Total number registered to date 9,515.

CIRCULATION.—The number of volumes taken for home use during the year was 98,909.

1889-90.

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Total
Bibliography	18	46	57	86	117	122	145	88	147	108	81	59	1,074
Philosophy . .	31	32	53	55	60	42	51	51	66	62	51	39	593
Religion . . .	48	38	30	67	61	66	73	57	99	62	81	50	732
Sociology . . .	45	38	41	65	93	70	97	119	121	95	128	75	987
Philology . . .	7	8	10	12	16	12	20	15	25	18	18	16	177
Science	118	86	122	147	184	160	224	254	323	212	208	136	2,174
Useful arts . .	61	104	166	228	255	232	294	296	329	273	230	194	2,662
Fine arts . . .	100	81	88	120	163	169	200	236	256	223	198	161	1,995
Literature . . .	162	186	204	296	343	283	342	251	406	329	306	214	3,422
Fiction	4,486	4,098	4,153	5,521	6,294	5,946	6,953	6,189	7,081	7,302	7,638	6,288	71,949
Travels	386	330	342	503	657	617	746	684	673	574	490	424	6,426
Biography . . .	141	146	176	227	270	223	292	349	327	314	262	248	2,975
History	158	144	174	301	377	343	418	422	489	348	343	226	3,743
Total	5,761	5,337	5,616	7,628	8,890	8,285	9,855	9,111	10,342	9,920	10,034	8,130	98,909
Daily average	230	198	225	293	370	331	379	387	398	381	386	325	325
Total for year ending June 30, 1890											98,909		
Total for year ending June 30, 1889											89,650		
Advance on last year											9,529		

FRENCH AND GERMAN BOOKS.—The nucleus of a collection of French and German books has been made by the purchase of several thousand volumes, embracing the standard works in the literature of these languages. These will be placed in circulation as soon as they shall have been classified and catalogued.

BINDERY.—The number of volumes sent to the bindery during the year was 1,425. Current volumes of magazines are bound as they are completed. The number of books mended in the library was 11,395.

FINDING LIST.—Arrangements have been made to print at once a class list of English prose fiction, which lists will be sold to the public at a reasonable price. The preparation and revision of this work is now about finished, and the manuscript will soon be placed in the hands of the printer. It is hoped that these lists will prove a convenience to the borrowers, and will greatly facilitate the use of the library. The arrangement will be a simple alphabetical one with author and title entries.

CLASS IN CATALOGUING.—The first of June a class in the study of cataloguing was organized under the direction of the library. Frequent calls had been made from outsiders for this kind of instruction, and it was finally decided to undertake the work systematically and start a regular course of instruction. No public announcement of this enterprise was made. The work was undertaken simply in response to a demand

which the library did not feel itself justified in meeting by either private or gratuitous instruction.

The course is to occupy ten months, divided into three terms. It is extremely practical, and several of the pupils go from the class-room to put into actual use in the libraries with which they are connected the information which they gain from lesson to lesson. Instruction is given for one hour in the morning, three times a week. The class meets in one of the recitation rooms of the Technical High School, there being no room connected with the library which is available for this purpose. It numbers at present ten persons, all but three of whom are already connected in some way with library work.

TALKS TO STUDENTS.—In connection with their regular course of study it has seemed advisable to give the students of the Technical High School some instruction in the use of the library, particularly of reference books. A series of talks has been planned which shall convey in the simplest manner possible a little knowledge of the various works of reference and the way to use them. This plan was put in operation before the close of the school year. It embraces brief talks on the subjects arranged as follows :

1. Encyclopædias — English, French, and German.
2. Dictionaries — English.
3. Biographical dictionaries.
4. Atlases and gazetteers.
5. Books of quotations, hand-books, etc.
6. Reference books in special classes.
7. Poole's Index, and other allied works.
8. Use of various appliances in the library. Card catalogue, etc.

Explanation of classification.

9. Hunting down a subject.

LITERATURE CLASS.—It is hoped that in the Fall it will be possible to carry out the project of inaugurating a class in literature under the auspices of the library. The plan as contemplated embraces English and comparative literature, and if undertaken will probably consist of a course of instruction embodied in familiar talks conducted on the seminar plan.

ASTRAL BRANCH.—This branch library was first established solely for the benefit of the residents of the Astral apartment house, but its privileges were afterward extended to all residents of Greenpoint, and it was opened as a free public library.

About one thousand volumes were placed upon its shelves at that time. These were classified and prepared for circulation at the main library, and an author list of the books was also prepared at the same

time. Books are still delivered from the main library by messenger, as the branch is not adequate to all the demands made upon it. About one thousand more volumes are now on the work tables of the main library and will soon be in readiness to be shelved at this branch. The number of subscribers is 516. The number of books given out for home use from March 4, to July 1, 1890, was 5,094. Visitors to the Reading-room approximate 15,000.

GENERAL.—It seems a fitting place in a report of this kind to speak of a matter which has called forth a vast amount of discussion in all fields of labor, and upon which there are two widely differing opinions. This is the question of specialization *versus* generalization. Mr. Dewey, the director of the Library School, has been making a study of this question recently in its bearing upon library work, and it will be interesting to hear the outcome of his investigations.

So far as this library is concerned, it has held it to be both more humane and more politic to follow the plan of introducing variety into the work of those connected with it. The narrower, or what we choose to esteem the narrower policy of specialization sees, perhaps, in its immediate accomplishments more satisfactory results, but in the long run the gain to the library in adopting the other plan seems to us undeniable. The whole tone of the service is improved and elevated; the atmosphere of the library becomes bracing, so to speak. Each member of the staff has the opportunity of learning the work of the several departments, and consequently is inspired with the spirit of progress. And not only is this true, but variety in work secures also greater freshness in its performance.

We are influenced by a very strong feeling that intelligence and conscientiousness are as indispensable qualifications in the discharge of duties at the loan desk as they are in any other department of the library, and in these duties the cataloguers, accession clerk, and other members of the staff participate. It is believed that the work in the other departments does not suffer, but is benefited by this occasional change of occupation, though it may be but for one hour a day or even less frequently.

As recommendations are always in order, and as they have always met with such hearty response, it is recommended that there be established in connection with the library a book-bindery, in which shall be done the work of the library in this line, and in which shall be conducted a course of instruction in the art itself, thus adding another department to the practical schools of the Institute. The advantages of having a bindery in the building are numerous, a bindery of its own being an acquisition which every large library regards as particularly desirable. With a bindery in the building, books may be bound under the supervision of those

interested in securing the most durable and suitable binding for the library ; the work may be done promptly, and books need not be laid aside until a sufficient number has been accumulated to make it worth while to the binder to take them into his shop, so that the length of time necessary to keep a book out of circulation for rebinding would be very much shortened. There is also through the year a large item of periodical or magazine binding in every library which conducts its reading-room on an extensive scale, and it is a serious question, considering this item in connection with the regular rebinding of the books in the circulating department, whether there would not be a decided saving of expense for a library to have its own equipment for doing this work.

But a more important feature of the plan suggested would be the course of instruction in book-binding. This is certainly a branch of manual training which would be valuable to young men both as a training and as a basis for the acquirement of a substantial and desirable trade. It is probable that such a school, if established in Pratt Institute, would be the first one of the kind ever started, but as long as binders complain that they have extreme difficulty in finding men with suitable training to do their work, there is no doubt but that such a school would be a help to them.

The library has received during the year practical recognition of its usefulness to outsiders in the shape of several donations of books from friends and subscribers.



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